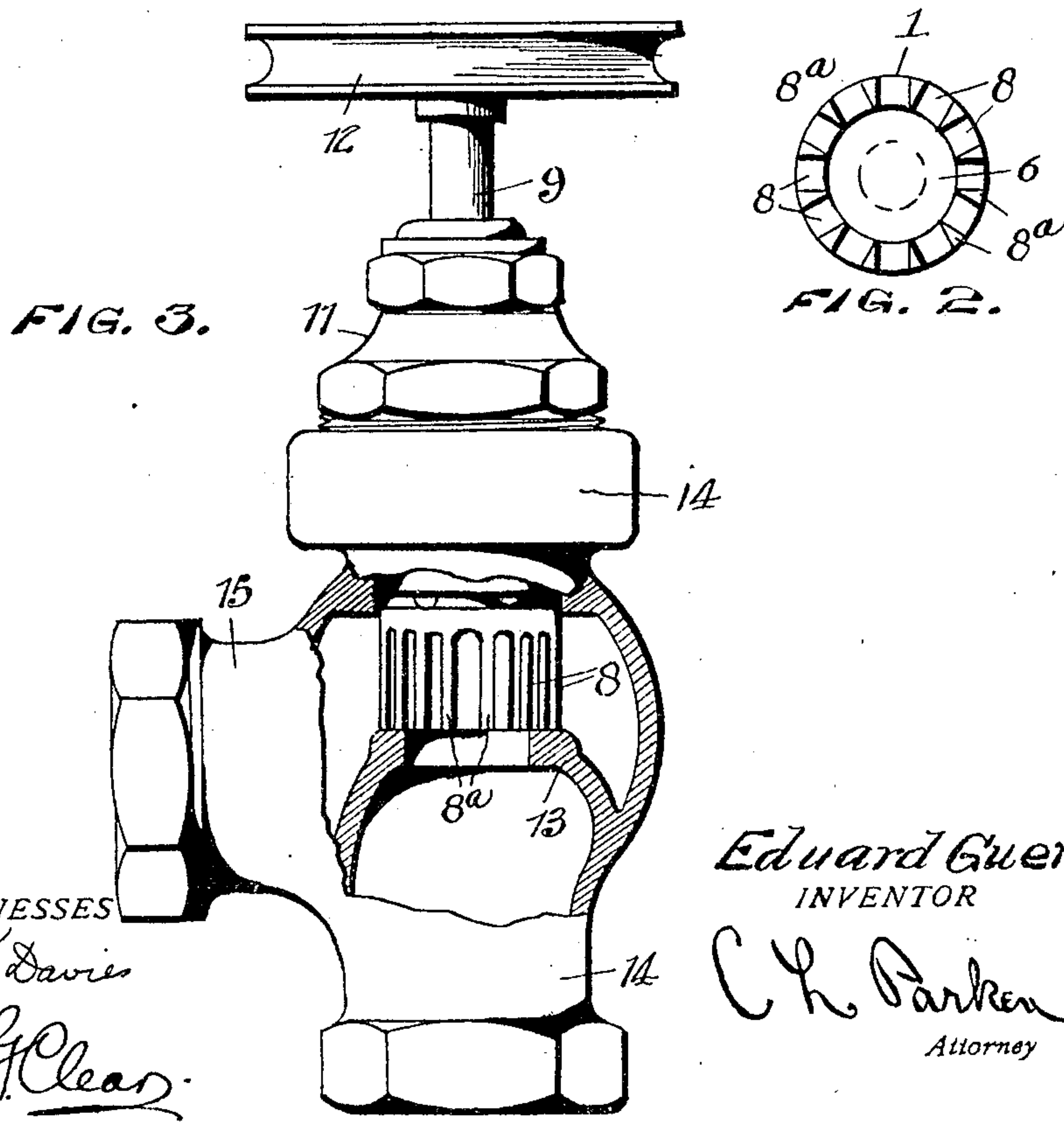
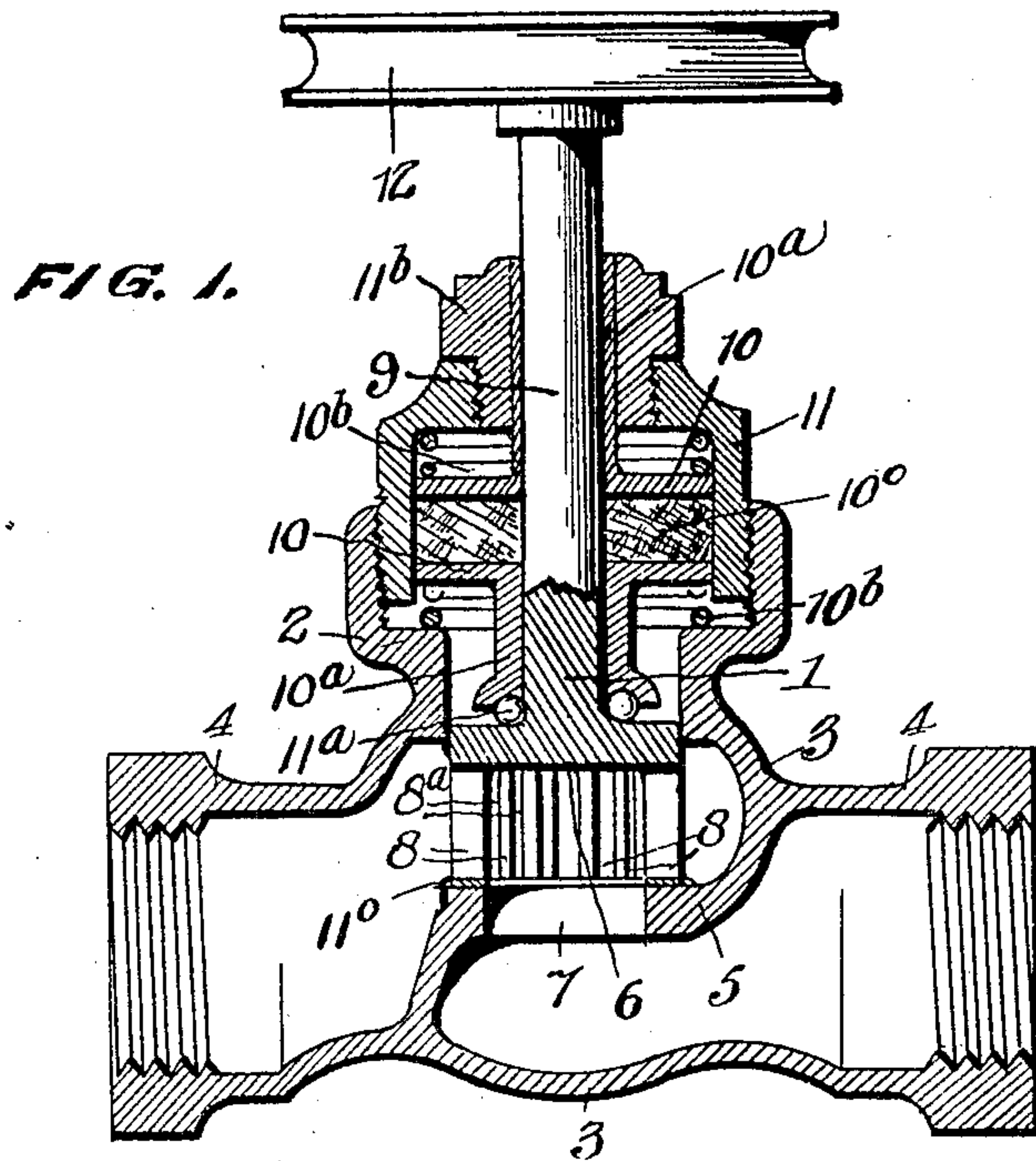


E. GUENTHER.
CIRCULATING PUMP.
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944,032.

Patented Dec. 21, 1909.



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CIRCULATING-PUMP.

944,032.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDUARD GUENTHER, citizen of the United States, residing at West New York, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Circulating-Pumps, of which the following is a specification.

My invention relates to circulating pumps, and the object thereof is to provide a simple and inexpensive article adapted for use in connection with the feed systems of automobiles and like machines, also for heating and cooling systems and for the transportation of sewage and other liquids.

In the accompanying drawings, illustrating my invention, forming a part of this specification, and in which like numerals are used to designate like parts throughout the several figures, Figure 1 is a central vertical sectional view, taken through a device illustrating my present invention. Fig. 2 is an end view of the inner end of the centrifugal member, and, Fig. 3 is an elevation partly in section, of a device slightly different in form from the device shown in Fig. 1.

Broadly my invention consists in providing, within a liquid supply pipe, having an apertured dividing web therein, similar to the web forming the valve seat in the ordinary reciprocating valve, a centrifugal member, preferably of the simple and inexpensive form illustrated, arranged to operate upon the said web about its aperture, to draw liquid from one side of said web, and deliver it in a constant volume upon the opposite side thereof.

In the embodiment of my invention, as shown in Figs. 1 and 2, I provide the centrifugal member 1, rotatable within the angular tubular extension 2 of a T-coupling 3, provided between its aligned tubular extensions 4, with a diagonally formed web 5. The lower end of the centrifugal member 1, is of a size to fit and rotate within the said tubular extension 2, and is provided with a central bore 6, in its lower end above the aperture 7 of the web 5. The lower enlarged end of the centrifugal member 1 is also provided with a circular series of slots 8, extending through its wall, from its bore 6, and forming therebetween a circular series of projections 8^a, triangular in cross section, as shown in Fig. 2, to rest upon the material of said web 5 around its said aperture 7. The centrifugal member 1, comprises, be-

sides its lower enlarged portion having the bore 6 therein, an upwardly extending reduced stem 9, passing centrally through tubular portions 10^a of opposing circular plates 10 inclosing between them, and about said stem 9, packing 10^b, the tubular portions 10^a of the lower plate 10, being provided with a flared lower end for the reception of anti-friction balls 11^a resting upon the enlarged lower end of the member 1. The plates 10 are held within a bonnet 11, threadedly engaged within the tubular portion 2 of the coupling 3, and provided with a cap nut 11^b, threaded within the upper portion thereof, surrounding the tubular portion 10^a of the upper plate 10. Coil springs 10^b are also arranged within the bonnet 11, bearing against the plates 10 to force the same toward one another, and serving to maintain the lower end of the member 1 in firm constant contact with the web 5 around its opening 7. A suitable washer 11^c may be secured upon the lower end of the member 1, to rotate upon the web 5, as shown in Fig. 1. Rotation of the centrifugal member 1 is effected from a suitable source of power by means of a suitable belt trained over a pulley 12, secured upon the upper end of its stem 9, or stem 9 can be direct coupled with a rotating power.

In Fig. 3 the centrifugal member is illustrated in connection with an L-coupling, which to this end, is provided with a web 13, formed somewhat differently from the web 5 of the T-coupling shown in Fig. 1, which web 13 is located between aligned tubular extensions 14, and faces the one in which the member 1 is located in a similar manner to that shown in Fig. 1, and operating to withdraw the liquid from the opposite extensions 14, and deliver it to the angular extension 15.

From the foregoing description it is thought that the operation of my improved device will be readily apparent. It may be stated however, that in its operation, the centrifugal member 1 is rotated at a speed sufficient to cause centrifugal action thereof, resulting in drawing liquid from one side of the dividing web, and throwing therefrom upon the opposite side of said web.

Having fully described my invention, I claim:

In a circulating pump of the character described, the combination of a liquid sup-

ply pipe having a tubular extension, and
an apertured dividing web adjacent the said
extension, a centrifugal member rotatively
mounted within said web, to draw liquid
5 from one side thereof, and deliver it upon
the opposite side, and having a projecting
stem extending through said pipe extension,
a bonnet closing the outer end of said ex-
tension and forming a bearing for said stem,
10 opposing plates within said bonnet having
tubular portions through which said stem

extends, packing disposed between said
plates, and springs within said bonnet for
forcing said plates toward one another, sub-
stantially as described. 15

In testimony whereof I affix my signature
in presence of two witnesses.

EDUARD GUENTHER.

Witnesses:

GEORGE STODDARD,
EDWIN L. KERR.